

CLAIM AMENDMENTS

Please amend claims 1, 11, and 21 as follows:

1. (Amended) A film comprising a [material] material selected from the group consisting of polyester, cellulose, polyolefins, polystyrenes, polymethyl(meth)acrylates, polyvinylchloride, polyamides, and polycarbonates, wherein it is coated on at least one surface with an aerogel coating which has been surface-modified via [silyation] silylation and formed by (a) applying a sol to said at least one side, (b) polycondensing said applied sol, and (c) drying.

11. (Amended) A film construct comprising a first and a second film, each film separately comprising a material selected from the group consisting of polyester, cellulose, polyolefins, polystyrenes, polymethyl(meth)acrylates, polyvinylchloride, polyamides, and polycarbonates, wherein a coat that[,] contains surface-modified by [silyation] silylation aerogel powder and/or surface-modified by silylation aerogel granulate is arranged between said first and second film to which said coat is fused.

21. (Amended) A film comprising a material selected from the group consisting of polyester, cellulose, polyolefins, polystyrenes, polymethyl(meth)acrylates, polyvinylchloride, polyamides, and polycarbonates, which is coated on at least one side with an aerogel coating, wherein said aerogel coating is surface-modified via [silyation] silylation and said coating comprises aerogel powder and/or aerogel granulate.

Please add the following new claims:

22. A film comprising a material selected from the group consisting of polytetrafluoroethylene, polyvinylacetate, polyvinylfluoride, polyvinylacrylonitrile, polyoxymethylene, polyphenylenesulfone, and polyimide, wherein the film is coated on at least one surface with an aerogel coating which has been surface-modified via silylation and formed by (a) applying a sol to said at least one surface, (b) polycondensing said applied sol, and (c) drying.

23. A film as defined in claim 22, wherein the film comprises polytetrafluoroethylene.

24. A film as defined in claim 22, wherein the aerogel coating comprises SiO₂ aerogels.

25. A film as defined in claim 22, wherein the aerogel coating comprises aerogels having hydrophobic surface groups.

26. A film as defined in claim 22, wherein the aerogel coating comprises aerogels having porosities of greater than 60% and densities of less than 0.6 g/cm³.

27. A film as defined in claim 22, wherein the aerogel coating comprises aerogels having thermal conductivities of less than 40 mW/mK.

28. A film as defined in claim 22, wherein the aerogel coating comprises an IR opacifier.

29. A film as defined in claim 22, wherein the aerogel coating comprises fibers.

30. A film as defined in claim 23, wherein the aerogel coating comprises SiO₂ aerogels.

31. A film as defined in claim 23, wherein the aerogel coating comprises aerogels having hydrophobic surface groups.

32. A film as defined in claim 23, wherein the aerogel coating comprises an IR opacifier.

33. A film as defined in claim 23, wherein the aerogel coating comprises fibers.

34. A process for manufacturing a coated film as defined in claim 22, wherein a sol is applied to a film and converted to an aerogel coating by polycondensation and drying.

35. A film construct comprising a first and a second film, each film separately comprising a material selected from the group consisting of polytetrafluoroethylene, polyvinylacetate, polyvinylfluoride, polyvinylacrylonitrile, polyoxymethylene, polyphenylenesulfone, and polyimide, wherein a coat comprising an aerogel powder that has been surface-modified by silylation and/or an aerogel granulate that has been surface-modified by silylation is arranged between said first and second films to which said coat is fused.

36. A film construct as defined in claim 35, wherein the first film comprises polytetrafluoroethylene.

37. A film construct as defined in claim 36, wherein the second film comprises polytetrafluoroethylene.

38. A film construct as defined in claim 35, wherein the aerogel coat comprises SiO₂ aerogels.

39. A film construct as defined in claim 35, wherein the aerogel coat comprises aerogels having hydrophobic surface groups.

40. A film construct as defined in claim 35, wherein the aerogel coat comprises aerogels having porosities of greater than 60% and densities of less than 0.6 g/cm³.

41. A film construct as defined in claim 35, wherein the aerogel coat comprises aerogels having thermal conductivities of less than 40 mW/mK.

42. A film construct as defined in claim 35, wherein the aerogel coat comprises an IR opacifier.

43. A film construct as defined in claim 35, wherein the aerogel coat comprises fibers.

44. A film construct as defined in claim 36, wherein the aerogel coat comprises SiO₂ aerogels.

45. A film construct as defined in claim 36, wherein the aerogel coat comprises aerogels having hydrophobic surface groups.

46. A film construct as defined in claim 36, wherein the aerogel coat comprises an IR opacifier.

47. A film construct as defined in claim 36, wherein the aerogel coat comprises fibers.

48. A process for manufacturing a film construct as defined in claim 35, wherein the aerogel powder or aerogel granulate coat is applied to a first film, a second film is laid thereon, and so fused or cemented to the first film that areas of the aerogel are included.

49. The process of claim 48, wherein the first film comprises polytetrafluoroethylene.

50. The process of claim 49, wherein the second film comprises polytetrafluoroethylene.

51. A thermal insulation material which comprises a film as defined in claim 22.

52. The thermal insulation material of claim 51, wherein the film comprises polytetrafluoroethylene.

53. A thermal insulation material which comprises a film construct as defined in claim 35.

54. The thermal insulation material of claim 53, wherein the first and/or second film of the film construct comprises polytetrafluoroethylene.

55. A film comprising a material selected from the group consisting of polytetrafluoroethylene, polyvinylacetate, polyvinylfluoride, polyvinylacrylonitrile, polyoxymethylene, polyphenylenesulfone, and polyimide, which is coated on at least one side

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with an aerogel coating, wherein said aerogel coating is surface-modified via silylation and said coating comprises aerogel powder and/or aerogel granulate.

56. The film of claim 55, wherein the film comprises polytetrafluoroethylene.